

In re Application of:  
Randall Ho et al.  
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PATENT  
Docket No.: EYEM1360

**Claim Listing:**

1. (amended) A method for generating a three-dimensional animated video head, comprising steps for :
  - capturing a sequence of two-dimensional video image frames of the face of an actor; [[.]]
  - for each video image frame:
    - sensing the locations of the actor's facial features at predetermined node locations, wherein each node location is associated with a particular facial feature;
    - driving control points on a three-dimensional head mesh based on the sensed node locations to generate a shaped three-dimensional head mesh;
    - warping the video image frame used to generate the sensed node locations for projection onto the shaped head mesh; and
    - texture mapping the warped video image frame onto the shaped head mesh to generate a three-dimensional frame head associated with the respective video image frame; and
  - animating the three-dimensional video head by displaying a sequence of the three-dimensional frame heads associated with the sequence of video image frames.
2. (original) Method for generating a three-dimensional animated video head as defined in claim 1, wherein the step of sensing the locations of the facial features in the sequence of video image frames is performed using transformed facial image frames generated based on wavelet transformations.

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3. (original) Method for generating a three-dimensional animated video head as defined in claim 1, wherein the step of sensing the locations of the facial features in the sequence of video image frames is performed using transformed facial image frames generated based on Gabor wavelet transformations.

4. (new) A method for generating a three-dimensional animated video head, comprising steps for :

capturing a sequence of two-dimensional video image frames of the face of an actor;

for each two-dimensional video image frame:

sensing the locations of the actor's facial features at predetermined node locations in the two-dimensional video image frame, wherein each node location is associated with a particular facial feature;

driving control points on a three-dimensional head mesh based on the sensed node locations two-dimensional video image frame to generate a shaped three-dimensional head mesh;

warping the two-dimensional video image frame used to generate the sensed node locations for projection onto the shaped head mesh; and

texture mapping the warped two-dimensional video image frame onto the shaped head mesh to generate a three-dimensional frame head associated with the respective video image frame; and

animating the three-dimensional video head by displaying a sequence of the three-dimensional frame heads associated with the sequence of video image frames.

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5. (new) Method for generating a three-dimensional animated video head as defined in claim 4, wherein the step of sensing the locations of the facial features in the sequence of video image frames is performed using transformed facial image frames generated based on wavelet transformations.

6. (new) Method for generating a three-dimensional animated video head as defined in claim 4, wherein the step of sensing the locations of the facial features in the sequence of video image frames is performed using transformed facial image frames generated based on Gabor wavelet transformations.